

Claims:

The following listing of claims will replace all prior versions and listings of claims in the application:

1 - 22. (Cancelled)

23. (Withdrawn) A method of making a pharmaceutical formulation for pulmonary administration, the method comprising: suspending active agent particles and a hydrophobic material in a liquid feedstock, wherein at least 90% of the active agent particles have a geometric diameter less than 3  $\mu\text{m}$ ; and spray drying the feedstock suspension to produce particulates comprising an active agent particle at least partially in the hydrophobic material.

24. (Withdrawn) A method according to claim 23 wherein the feedstock comprises water and wherein the active agent has a solubility in water of less than 1.0 mg/ml.

25. (Withdrawn) A method according to claim 23 further comprising collecting the particulates.

26. (Withdrawn) A method according to claim 25 wherein the collected particulates have a mass median diameter less than 20  $\mu\text{m}$ .

27. (Withdrawn) A method according to claim 25 wherein the collected particulates have a mass median diameter less than 10  $\mu\text{m}$ .

28. (Withdrawn) A method according to claim 23 wherein 95% of the active agent particles have a geometric diameter less than 3  $\mu\text{m}$ .

29. (Withdrawn) A method according to claim 23 wherein the hydrophobic material comprises a lipid.

30. (Withdrawn) A method according to claim 23 wherein the hydrophobic material comprises a phospholipid.

31. (Withdrawn) A method according to claim 23 wherein the hydrophobic material comprises a hydrophobic amino acid.

32. (Withdrawn) A method according to claim 23 further comprising adding an emulsifying agent to the feedstock.

33. (Withdrawn) A method according to claim 23 wherein the emulsifying agent comprises distearoyl phosphatidylcholine.

34. (Withdrawn) A method according to claim 23 further comprising adding a blowing agent to the feedstock.

35. (Withdrawn) A method according to claim 23 further comprising adding a polyvalent cation to the feedstock.

36. (Withdrawn) A method according to claim 23 wherein the feedstock is spray dried in a manner to produce particulates having a bulk density of less than 0.5 g/cm<sup>3</sup>.

37. (Withdrawn) A pharmaceutical formulation prepared by a method according to claim 23.

38. (Currently Amended) A pharmaceutical formulation for pulmonary administration, the pharmaceutical formulation comprising:  
porous particulates consisting essentially of active agent particles in a matrix comprising a phospholipid, the active agent particles having a geometric diameter of less than about 3 µm and a solubility in water of about 0.1 to about 1.0 mg/ml and wherein the active agent particles are dispersed within the phospholipid matrix; and  
wherein the particulates are porous, and have a mass median diameter less than

20  $\mu\text{m}$ , a bulk density of less than about 0.5 g/cm<sup>3</sup>, and a mass median aerodynamic diameter less than about 2.6  $\mu\text{m}$ , and wherein the particulates do not comprise lactose.

39. (Previously Presented) A pharmaceutical formulation according to claim 38 wherein the formulation provides for the delivery to the lung of a dose of at least about 5 mg in a single inhalation.

40. (Cancelled)

41. (Previously Presented) A pharmaceutical formulation according to claim 38 wherein a formulation fine particle fraction of less than 3.3  $\mu\text{m}$  is at least about 72 percent.

42 - 43. (Cancelled)

44. (Previously Presented) A pharmaceutical formulation according to claim 38 wherein the matrix comprises one or more of dipalmitoylphosphatidylcholine, distearoylphosphatidylcholine, diarachidoylphosphatidylcholine dibehenoylphosphatidylcholine, diphosphatidyl glycerol, short-chain phosphatidylcholines, long-chain saturated phosphatidylethanolamines, long-chain saturated phosphatidylserines, long-chain saturated phosphatidylglycerols, and long-chain saturated phosphatidylinositols.

45 - 46. (Cancelled)

47. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates have a bulk density less than 0.3 g/cm<sup>3</sup>.

48. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates have a bulk density less than 0.2 g/cm<sup>3</sup>.

49. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates are in dry powder form for aerosolization in a dry powder inhaler.

50. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates are suspended in a propellant for aerosolization in a metered dose inhaler.

51. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates are suspended within a liquid for aerosolization in a nebulizer.

52. (Original) A pharmaceutical formulation according to claim 38 wherein the particulates further comprise a polyvalent cation.

53. (Previously Presented) A pharmaceutical formulation according to claim 38 wherein the particulates are formed by spray drying with a blowing agent.

54. (Currently Amended) A pharmaceutical formulation for pulmonary administration, the pharmaceutical formulation comprising:

particulates consisting essentially of amphotericin B particles in a matrix comprising a phospholipid wherein the amphotericin B particles have a solubility in water of about 0.1 to about 1.0 mg/ml, and are dispersed within the phospholipid matrix, and;

wherein the particulates are porous, and have a mass median diameter less than 20  $\mu\text{m}$ , a bulk density of less than about 0.5 g/cm<sup>3</sup> and a mass median aerodynamic diameter less than about 2.6  $\mu\text{m}$ , and wherein the particulates do not comprise lactose.

55. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates have a mass median diameter less than 10  $\mu\text{m}$ .

56. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates have a mass median diameter less than 5  $\mu\text{m}$ .

57. (Cancelled)

58. (Original) A pharmaceutical formulation according to claim 54 wherein the amphotericin B particles are crystalline.

59. (Cancelled)

60. (Previously Presented) A pharmaceutical formulation according to claim 54 wherein the lipid matrix comprises one or more of dipalmitoylphosphatidylcholine, distearoylphosphatidylcholine, diarachidoylphosphatidylcholine dibehenoylphosphatidylcholine, diphosphatidyl glycerol, short-chain phosphatidylcholines, long-chain saturated phosphatidylethanolamines, long-chain saturated phosphatidylserines, long-chain saturated phosphatidylglycerols, and long-chain saturated phosphatidylinositols.

61. (Cancelled)

62. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates have a bulk density less than 0.3 g/cm<sup>3</sup>.

63. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates have a bulk density less than 0.2 g/cm<sup>3</sup>.

64. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates are in dry powder form for aerosolization in a dry powder inhaler.

65. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates are suspended in a propellant for aerosolization in a metered dose inhaler.

66. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates are suspended within a liquid for aerosolization in a nebulizer.

67. (Original) A pharmaceutical formulation according to claim 54 wherein the particulates further comprise a polyvalent cation.

68. (Previously Presented) A pharmaceutical formulation according to claim 54 wherein the particulates are formed by spray drying with a blowing agent.

69 – 83. (Cancelled).

84. (Withdrawn) A method of making a pharmaceutical formulation for pulmonary administration, the method comprising: suspending amphotericin B particles and a hydrophobic material in a liquid feedstock, wherein at least 90% of the active agent particles have a geometric diameter less than 3  $\mu\text{m}$ ; and spray drying the feedstock suspension to produce particulates comprising amphotericin B at least partially in the hydrophobic material.

85. (Withdrawn) A method according to claim 84 further comprising collecting the particulates, wherein the collected particulates have a mass median diameter less than 20  $\mu\text{m}$ .

86. (Withdrawn) A method according to claim 84 further comprising collecting the particulates, wherein the collected particulates have a mass median diameter less than 10  $\mu\text{m}$ .

87. (Withdrawn) A method according to claim 84 wherein the hydrophobic material comprises a lipid.

88. (Withdrawn) A method according to claim 84 wherein the hydrophobic material comprises a phospholipid.

89. (Withdrawn) A method according to claim 84 wherein the hydrophobic material comprises a hydrophobic amino acid.

90. (Withdrawn) A method according to claim 84 further comprising adding an emulsifying agent to the feedstock.

91. (Withdrawn) A method according to claim 84 further comprising adding a blowing agent to the feedstock.

92. (Withdrawn) A method according to claim 84 further comprising adding a polyvalent cation to the feedstock.

93. (Withdrawn) A method according to claim 84 wherein the feedstock is spray dried in a manner to produce particulates having a bulk density of less than 0.5 g/cm<sup>3</sup>.

94. (Withdrawn) A pharmaceutical formulation prepared by a method according to claim 84.

95. (Withdrawn) A method of making a pharmaceutical formulation for pulmonary administration, the method comprising: suspending amphotericin B particles in a liquid feedstock, the liquid feedstock having a lipid and a blowing agent dissolved or suspended therein; and spray drying the feedstock suspension to produce hollow and/or porous particulates comprising amphotericin B and the lipid.

96. (Withdrawn) A method according to claim 95 further comprising collecting the particulates, wherein the collected particulates have a mass median diameter less than 20 µm.

97. (Withdrawn) A method according to claim 95 further comprising collecting the particulates, wherein the collected particulates have a mass median diameter less than 10 µm.

98. (Withdrawn) A method according to claim 95 wherein the lipid comprises a phospholipid.

99. (Withdrawn) A method according to claim 95 further comprising adding an emulsifying agent to the feedstock.

100. (Withdrawn) A method according to claim 95 further comprising adding a polyvalent cation to the feedstock.

101. (Withdrawn) A method according to claim 95 wherein the feedstock is spray dried in a manner to produce particulates having a bulk density of less than 0.5 g/cm<sup>3</sup>.

102. (Withdrawn) A pharmaceutical formulation prepared by a method according to claim 95.

103. (Previously Presented) A pharmaceutical formulation according to claim 38 wherein the active agent comprises ciprofloxacin.

104. (Currently Amended) A particulate pharmaceutical formulation in dry powder form for aerosolization and pulmonary administration, which comprises

an active agent particle having a geometric diameter of less than about 3 µm and at least one property of a solubility in water of about 0.1 to about 1.0 mg/ml, or a low glass transition temperature, which comprises about 283°C; a porous phospholipid material matrix of surrounding the active agent particle wherein the active agent particle is substantially within the phospholipid matrix; and wherein the particulate pharmaceutical formulation is formed by preparing a feedstock comprising a suspension of the active agent particles and the phospholipid material, and spray-drying the feedstock to produce porous particulates having a mass median diameter less than 20 µm, a bulk density of less than about 0.5 g/cm<sup>3</sup> and a mass median aerodynamic diameter less than about 2.6 µm, and wherein the particulates do not comprise lactose.

105. (Previously Presented) The pharmaceutical formulation according to claim 104 wherein the particulates have a bulk density less than 0.3 g/cm<sup>3</sup>.

106. (Cancelled)

107. (New) A method of making the particulates of claim 38 the method comprising suspending active agent particles and a hydrophobic material in a liquid feedstock, wherein at least 90% of the active agent particles have a geometric diameter less than 3  $\mu\text{m}$ ; and spray drying the feedstock suspension to produce particulates wherein the suspended particulate has an Ostwald ripening time greater than about 10,000 seconds at 40°C.

108. (New) The particulates of claim 107 wherein the Ostwald ripening time is greater than about 100,000 seconds at 40°C.

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